

1 a second sound sensor disposed a predetermined distance from said sound
2 generator and output of said anti-noise field to generate a signal indicative of ambient
3 noise; and

4 a processor, for generating the drive signals to the sound generator in
5 accordance with said residual signal and said signal indicative of said ambient noise;

6 *AA* wherein said first sound sensor is connected to cooperate with said processor
7 *cont* and said sound generator to form a feedback loop that processes a first range of
8 frequencies to produce a feedback signal, and said second sound sensor is connected
9 to cooperate with said processor and said sound generator to provide feedforward
10 signal noise cancellation of a second range of frequencies, said feedforward and
11 feedback signals being processed by said processor to form a component of said anti-
12 noise field, and

13 wherein the first range of frequencies and the second range of frequencies
14 substantially overlap in a cancellation band below an enhancement frequency range.

15
16 **REMARKS**

17 Prior to examination of the continued prosecution application, Applicant
18 respectfully request that the claims be amended per the above. Applicant has canceled
19 without prejudice claims 1-21 and 23-26. New claim 28 has been added. In
20 information disclosure statement accompanies this preliminary amendment.

21
22 Applicant has filed this continued prosecution application to pursue claim
23 coverage on the mentions described in claims 22 and 27. Applicant has amended
24 claims 22 and 27, and added new claim 28, in order to distinguish the presently claimed
25 invention from references that were cited in the parent case. Specifically, it is believed
26 that the claims as amended are distinguished over the Allie et al. reference, cited in the
27 parent case and made of record in the IDS that accompanies the filing of this

1 application. With regard to claim 22, the present invention modifies the characteristics
2 of the feedback processing filter in such a way that if the noise level drops the
3 cancellation is correspondingly decreased, not increased. This is fundamentally
4 different from Allie et al. in which Allie uses information about the noise level from the
5 error microphone to alter the feedforward filter transfer characteristics in order to always
6 improve the cancellation. In Allie et al., as a noise level drops the filter coefficients are
7 modified to ensure that the error microphone output drops further in an effort to insure
8 the maximum possible noise reduction at all times. It is important to note that Allie et al.
9 alters the feedforward processing filter as Allie et al. does not employ virtual earth
10 feedback. With regard to claim 27, this claim has been amended to state that the
11 transfer function of the processor is not altered by the feedback signal.

12
13 Applicant has further amended claim 27 to define patentable subject matter over
14 US Patent No. 5,134,659 to Moseley; Moseley was cited in the parent case and is
15 made of record in the IDS that accompanies the filing of this CPA. The Moseley
16 reference states that the middle and high frequencies are filtered out of the feedback
17 loop and that the feedback function is limited to low frequencies. (Please refer to
18 column 4, lines 15-30, and column 7, lines 35-38) This is done in order to overcome
19 the high frequency feedforward limitation noted in the prior art discussion of Moseley.
20 The feedforward function of Moseley is not similarly limited to the low frequency range.
21 In that sense, the feedforward and the feedback functions of Moseley are in conflict.

22
23 The feedback function of the present invention, however, is not limited to low
24 frequencies and as a matter of fact the present invention envisions that the feedforward
25 and the feedback functions will operate on frequencies having a substantial amount of
26 overlap. This teaching is supported by the specification. The Examiner's attention is
27 respectfully directed to p. 6, line 31, to p. 7, line 2, and lines 5-7. Specifically, lines 5-7

1 of p. 7 indicate that the feedforward system can cancel frequencies within the
2 cancellation band, i.e. the feedback band, to enhance the effectiveness of the
3 cancellation system. Lines 2-4, state that the frequencies canceled include those in the
4 enhancement region. Applicant has accordingly amended claim 27 to clarify that even
5 though the feedforward function may operate on a first range of frequencies and the
6 feedback function on a second range of frequencies, the present invention provides for
7 a substantial overlap of the frequencies between the two ranges in a cancellation band
8 below an enhancement frequency range. This amendment to claim 27 is directly
9 supported by the specification as explained above.

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11 Applicant believes that the foregoing amendments and remarks define
12 patentable subject matter. A first office action on the merits is respectfully requested at
13 the Examiner's earliest convenience.

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15 Respectfully submitted,

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